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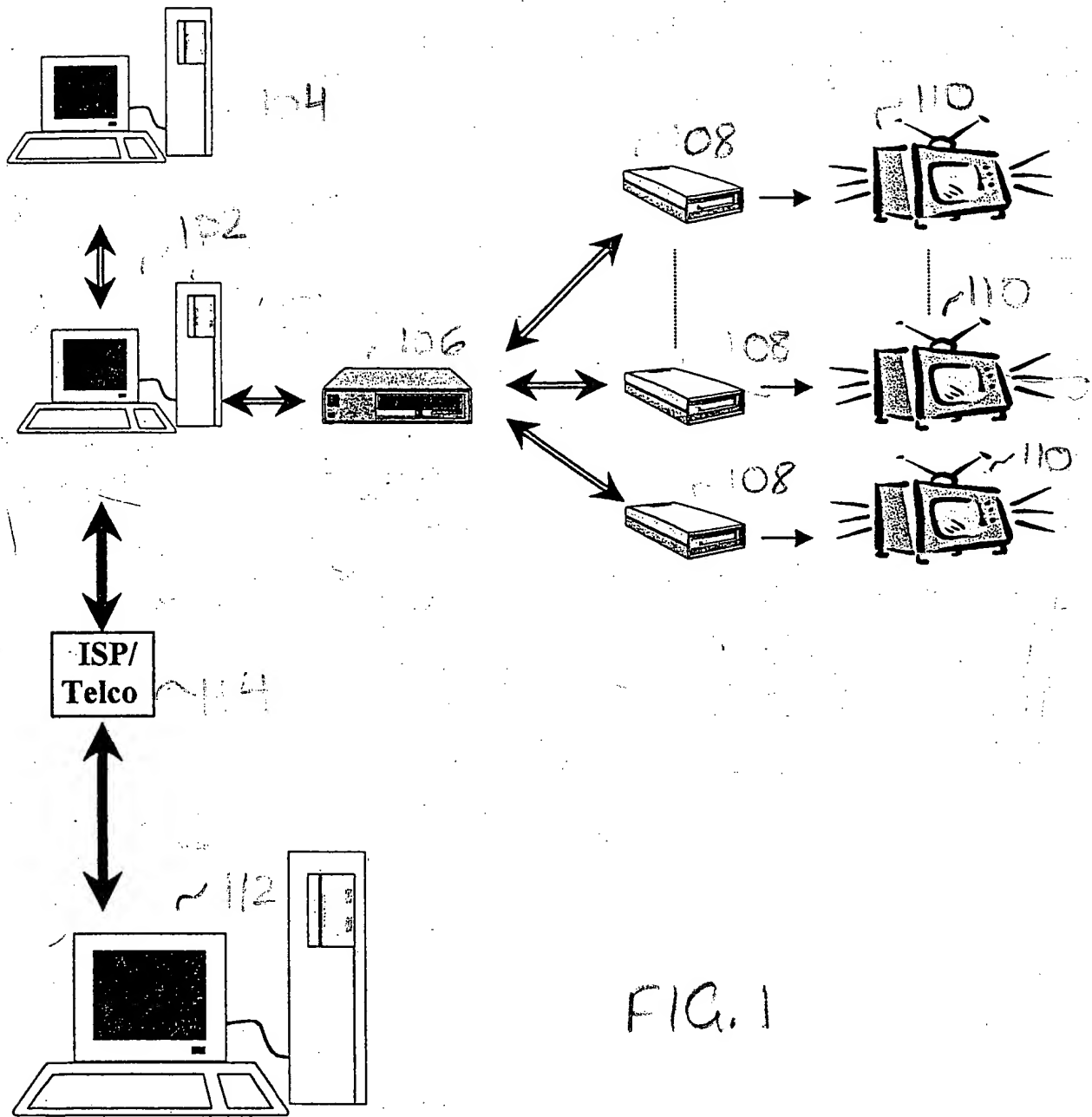
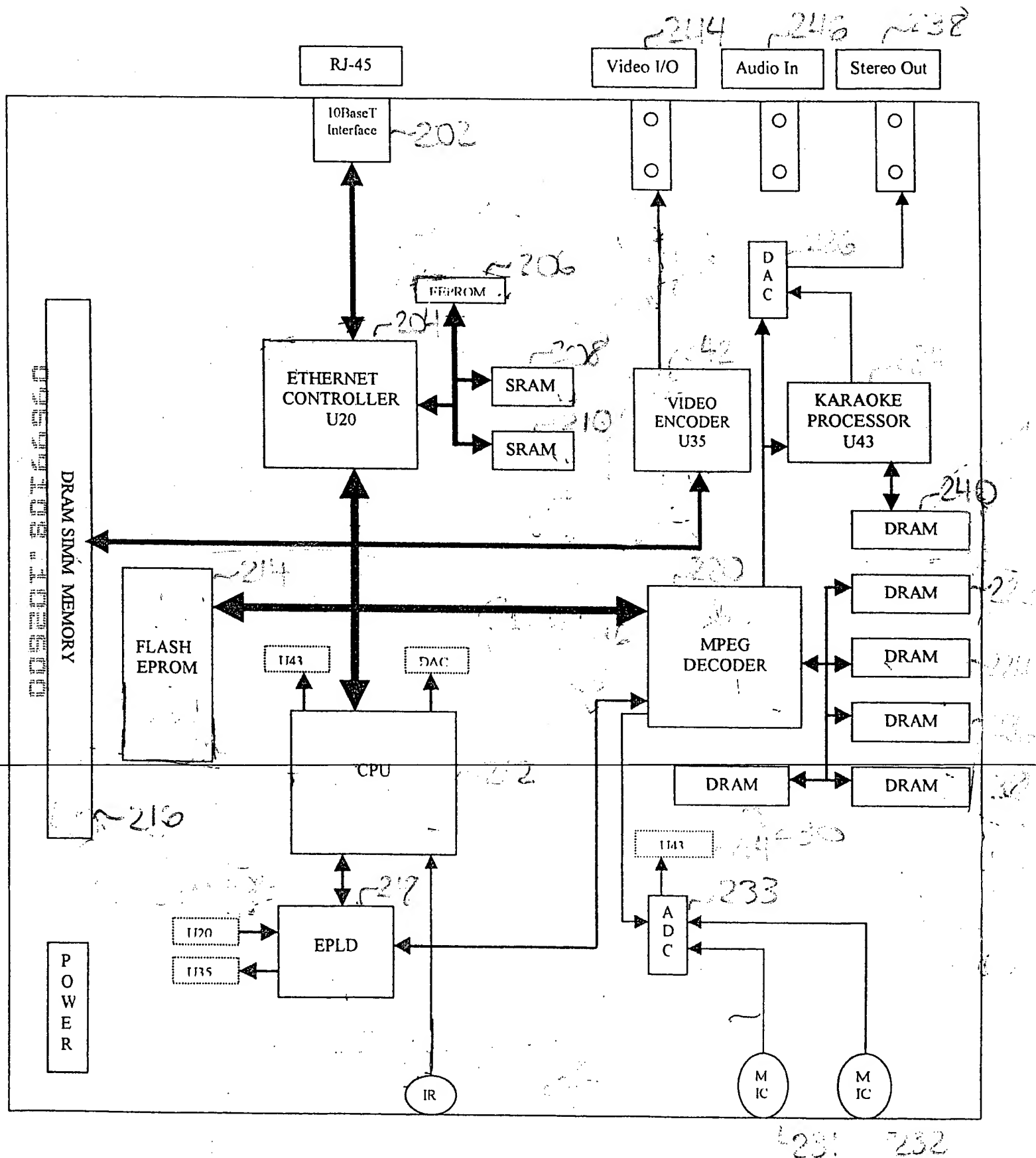


FIG. 1

F1 G.2





## IR REMOTE CONTROL INSTRUCTIONS

The following diagram is the IR remote control key positions.

402      404      406

| TV/VIDEO | NEXT             |             | ENTER        |
|----------|------------------|-------------|--------------|
| 1 414    | 2 416            | 3 418       | VOL + ~456   |
| 4 420    | 5 422            | 6 424       | VOL -- ~458  |
| 7 426    | 8 428            | 9 430       | ECHO + ~460  |
| NTSC/PAL | 0 413            | RESET       | ECHO -- ~462 |
|          | ↑ 432            | 410         | FADER ~464   |
| ← 436    | View/Menu<br>412 | → 438       | PITCH ~466   |
|          | ↓ 434            | SEEK<br>448 | HARMONY ~468 |
| KEY 450  | KEY N<br>454     | KEY 452     | MUTE ~470    |
| SLOW     | STEP             | PAUSE       | PLAY ~440    |

408

446      444

### Main Control Keys:

**NTSC/PAL** – Switches between NTSC and PAL mode. Default is PAL mode after power-up.

**Reset** – Reboots the set-top box.

**Next** – Stops the current video and starts the next video selected.

**Enter** – Press **enter** to change from karaoke to movie and vice versa.  
Press **enter** to erase title 0.  
Press **enter** after entering karaoke or movie title is completed.

**View/Menu** – After all karaoke or movie titles are entered, press this key to start playing video.  
During video play, when this key is pressed, menu screen would come on and video titles can be added or edited. Press this key again to start playing the video.

**Up/Down/Right/Left** arrow keys – Moves the cursor (indicated by gold color) up or down, right or left.

**0-9** number keys – Numbers are used to identify video titles.

FIG. 4

00699109-10500

Turn on set-top  
box

~502

Display menu

~504

User selects one  
or more video/  
karaoke selections

~506

User selects  
control command  
(e.g., view)

~508

Set-top box  
deciphers infra red  
control

~510

Control command  
(e.g., view  
command) sent to  
CPU of set-top box

~512

Set-top box sends  
view control  
command to local  
server

~514

Local server  
receives signal  
indicating  
selection and  
control command  
(e.g., view)

~516

Local server sends  
compressed  
karaoke/video data  
over network to  
set-top box

~518

Set-top box  
processes data  
from local server

~520 (SEE FIG. 4)

FIG. 5

User sings through microphone

User sings through microphone connected to set-top box

```

Send second
audio signal to A/D
converter

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User selects audio control command (e.g., volume, echo, fader, pitch, harmony)

Singer's voice is processed by karaoke processor to create a modified second audio signal

Send modified second audio signal to D/A converter

Send analog audio signal to amplifier

FIG. 6

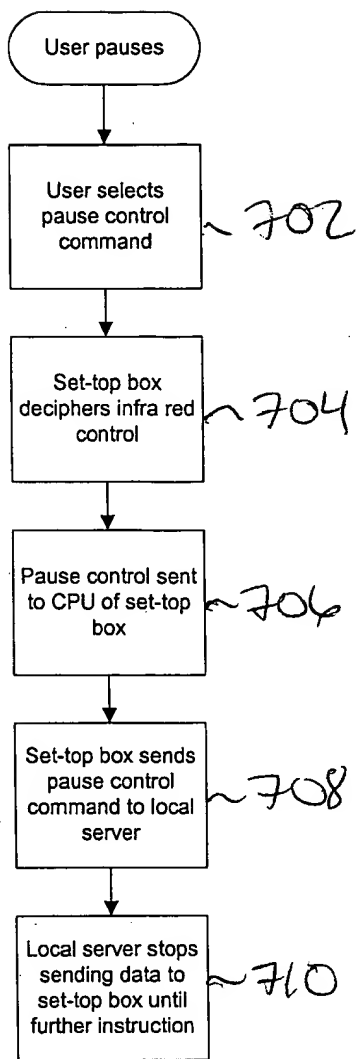


FIG. 7

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graph TD; A([User selects step]) --> B[User selects step control command 802]; B --> C[Set-top box deciphers infra red control 804]; C --> D[Step control sent to CPU of set-top box 806]; D --> E[Set-top box sends step control command to local server 808]; E --> F[Local server advances video by one frame by sending frame data to set-top box 810]; F --> G[Set-top box processes data from local server 812];
```

The flowchart illustrates the process of step control, starting with a user selecting a step, followed by selecting a step control command, deciphering the infra red control, sending the step control to the CPU of the set-top box, sending the step control command to the local server, the local server advancing the video by one frame by sending frame data to the set-top box, and finally, the set-top box processing the data from the local server. Handwritten annotations 802 through 812 are present next to the process steps.

**FIG. 8**



```

graph TD
    Start([User selects slow]) --> 902[User selects slow control command]
    902 --> 904[Set-top box decipheres infra red control]
    904 --> 906[Slow control sent to CPU of set-top box]
    906 --> 908[Set-top box sends slow control command to local server]
    908 --> 910[Local server slows speed with which frames are sent to set-top box]
    910 --> 912[Local server continues to send compressed data over network to set-top box]
    912 --> 914[Set-top box processes data from local server]
  
```

900

User selects slow

User selects slow control command 902

Set-top box decipheres infra red control 904

Slow control sent to CPU of set-top box 906

Set-top box sends slow control command to local server 908

Local server slows speed with which frames are sent to set-top box 910

Local server continues to send compressed data over network to set-top box 912

Set-top box processes data from local server 914 (SEE FIG. 14)

FIG. 9

User selects play from pause, step, or slow mode

User selects play control command

Set-top box  
deciphers infra red  
control

Play control sent to CPU of set-top box

**Set-top box sends  
play control  
command to local  
server**

Local server returns to normal speed with which frames are sent to set-top box

Local server continues to send compressed data over network to set-top box

Set-top box  
processes data  
from local server

Display percent  
video/karaoke  
selection played

FIG. 10

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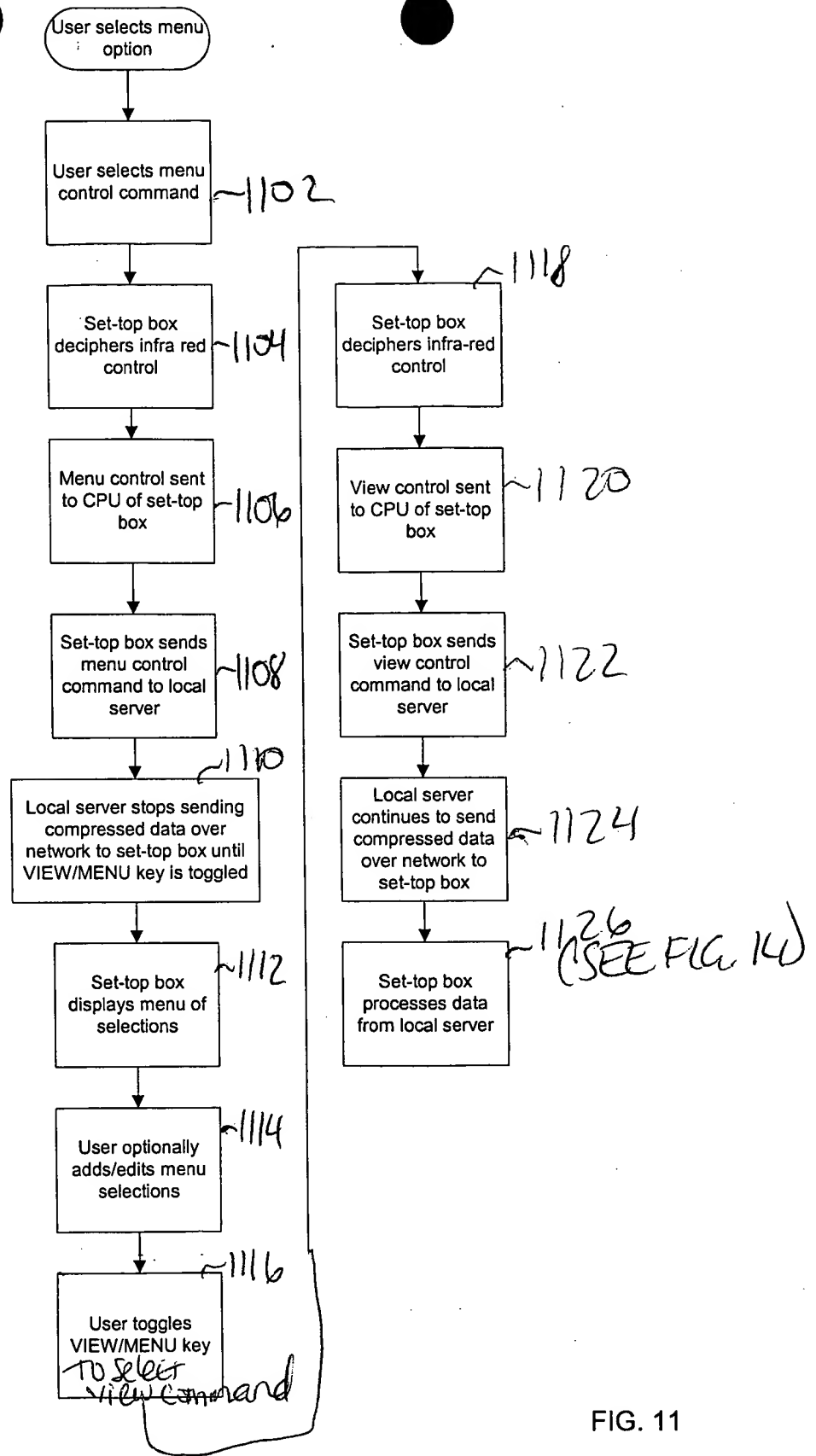


FIG. 11

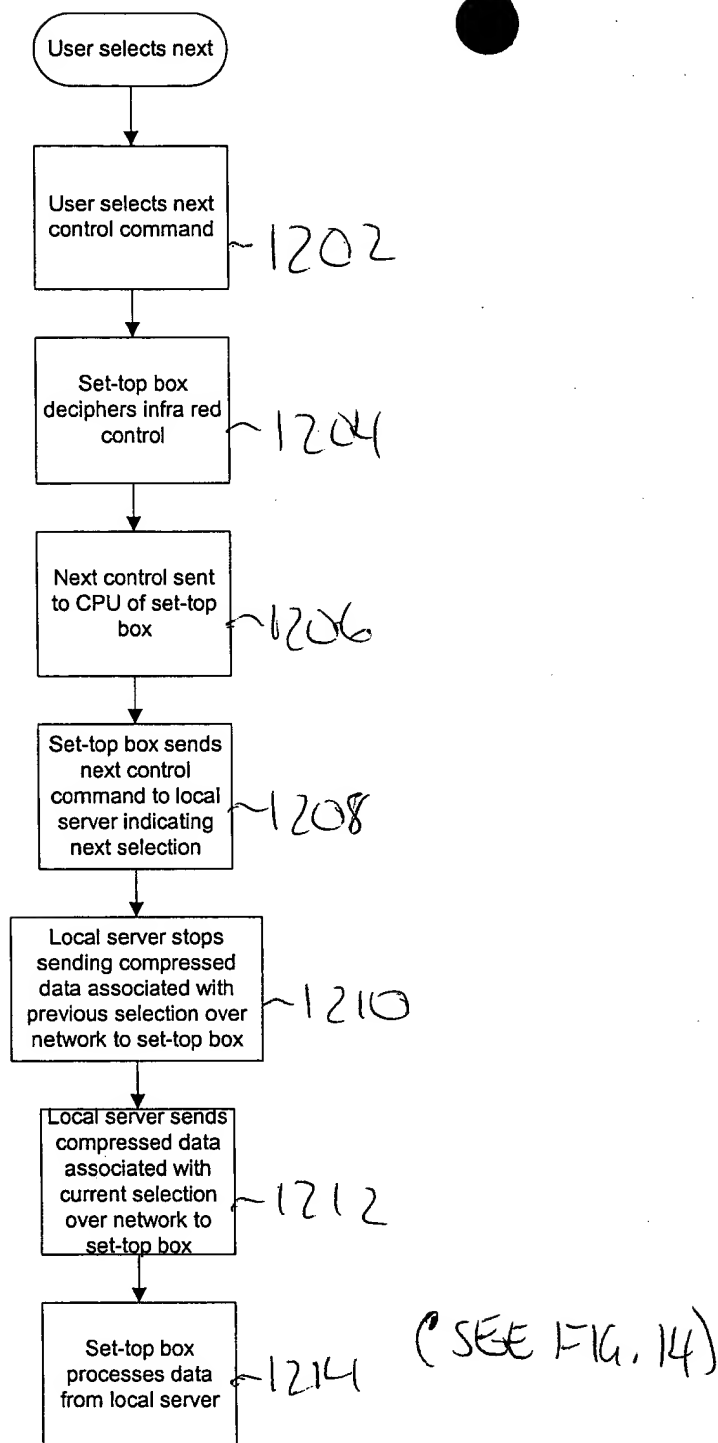
[illegible]

FIG. 12

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graph TD; A([User selects seek]) --> B[User selects seek control command ~1302]; B --> C[User selects percentage of selection to jump to ~1304]; C --> D[Set-top box deciphers infra red control ~1306]; D --> E[Seek control with the percentage sent to CPU of set-top box ~1308]; E --> F[Set-top box calculates starting point using file size and the percentage ~1310]; F --> G[Set-top box sends an indicator of the starting point to the local server ~1312]; G --> H[Local server jumps to the starting point in file ~1314]; H --> I[Local server sends compressed data from the starting point over network to set-top box ~1316]; I --> J[Set-top box processes data from local server ~1318];
```

Flowchart illustrating the seek control process (FIG. 13):

- User selects seek
- User selects seek control command ~1302
- User selects percentage of selection to jump to ~1304
- Set-top box deciphers infra red control ~1306
- Seek control with the percentage sent to CPU of set-top box ~1308
- Set-top box calculates starting point using file size and the percentage ~1310
- Set-top box sends an indicator of the starting point to the local server ~1312
- Local server jumps to the starting point in file ~1314
- Local server sends compressed data from the starting point over network to set-top box ~1316
- Set-top box processes data from local server ~1318

FIG. 13  
(SEE FIG. 14)

Set-top box  
processes data  
from local server

Set-top box  
receives  
compressed data  
from local server

MPEG decoder  
chip  
decompresses  
video and audio  
data in the  
compressed data

Send decompressed video signal to video encoder to convert digital signal to analog signal

Output analog  
signal to TV/  
monitor

Send decompressed first audio signal to karaoke processor

Send processed first audio signal to D/A converter

Send analog audio signal to amplifier

FIG. 14